

Go Green for Schools
Green Schools Challenge
www.gogreenva.org

Contact Information

Ann Williams
Hopewell City School Board
aywilliams@verizon.net

Bryna Dunn
Director of Environmental Planning and Research
Moseley Architects
bdunn@moseleyarchitects.com

Tim Dunn
Energy Manager
Hopewell Public Schools
tdunn@hopewell.k12.va.us

Timeline for the 2009 Green Schools Challenge

May 1	Challenge launched
October 9	Completed Challenge submitted
October 22	Supporting documentation due from finalists
November 18-20	Awards presented at VSBA Annual Convention

Awards sponsored by Moseley Architects and Trane

Take The 2009 Green Schools Challenge


Click on "see background materials" to read a detailed description of each action. In addition, view examples, links and evaluations of how to create quality or award events.

	Total Possible Points	Points for 2009 Actions	Points for 2008 Actions
School Division Policy Adoption	10	<input type="checkbox"/>	<input type="checkbox"/>
Energy Efficiency	10	<input type="checkbox"/>	<input type="checkbox"/>
Green Buildings	10	<input type="checkbox"/>	<input type="checkbox"/>
Waste Management	10	<input type="checkbox"/>	<input type="checkbox"/>
Vehicles	10	<input type="checkbox"/>	<input type="checkbox"/>

Indoor Environmental Quality

12. Establish and implement a Divisional Indoor Air Quality Management Plan. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>
13. Conduct a Divisionwide dust abatement or air quality performance inventory. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>
Employee Incentives			
17. Provide employee benefits for bike sharing, walking, biking, or taking transit to work. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>
18. Create a Divisionwide recognition program for teachers and staff who promote "Green Education" in their classrooms through programs and curricula. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>
Education / Community Participation			
19. Develop an employee education program on sustainability related to the environment and energy conservation. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>
20. Develop and implement a Divisionwide education program for students to learn how to use and save energy, reduce energy consumption, environmental issues and reusable energy which will then be shared with the local community. See background materials	5	<input type="checkbox"/>	<input type="checkbox"/>

Grand Total Pre-2009 Actions + 2009 Actions



Energy Manager's Role

Responsibilities

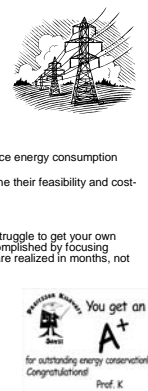
- Monitors the organization's energy usage
- Develops and implements practices and procedures designed to reduce energy consumption and/or improve efficiency of usage
- May research alternative/renewable energy technologies and determine their feasibility and cost-effectiveness

Goal

- Get everyone in the organization to do every day for years what you struggle to get your own family members to do for just one day in your own home. This is accomplished by focusing exclusively on organizational and behavioral change, so net savings are realized in months, not years.

Tasks

- Performs building audits
- Checks all utility bills for any anomalies and enters data in ECAP
- Monitors EMS programs for all schools
- Discuss building audits with principals
- Addresses faculty meetings
- Attend energy education seminars



Partnership With Energy Education, Inc.

Three primary ways to reduce your energy costs:

- Equipment upgrades
- Buying initiatives
- People-based solutions

- Buildings don't consume energy. People do.
- Change habits and equipment configuration
- Guaranteed savings within four years
- No up-front capital
- No new budgeted money
- Provide training and support for the life of the agreement

HOPEWELL PUBLIC SCHOOLS ENERGY MANAGEMENT PROGRAM FACTS FOR FY2008-2009						
FY2008-2009 Total Energy Expense		\$ 138,436	COST/SGF	\$ 1.13	MBTU/SGF	\$2.88
Types of Utility Accounts						
		Use	Units	Total Cost	Use/Unit Cost	% of Total Cost
Electric	FY2008	7,439,804	kWh	\$ 128,101	0.0253	92.5%
Natural Gas	FY2008	117,301	CCF	\$ 147,710	1.2603	10.5%
Water	FY2008	7,257	MGAL	\$ 50,625	7.1100	3.6%
Sites						
		Utility Cost For 1 Year	Average Utilities Cost For 1 Month			
Total Number of Sites						
		14	182,208			
High School	1	2,015,513	\$ 248,262	\$ 20,679		
Middle School	1	1,150,000	\$ 180,371	\$ 15,031		
Elementary Schools	4	2,975,847	\$ 428,676	\$ 35,723		
Administration/Support/Athletic Fields	7	33,597	\$ 58,778	\$ 4,898		
Additional Notes (End of FY2008)						
Cost Avoidance History		CA %				
No Energy Manager from July 2007 to April 2008		FY2003-2004	\$ 167,000	16.70%		
Use avoidance up to \$172,336 from FY2008 to FY 2009		FY2004-2005	\$ 227,020	21.25%		
		FY2005-2006	\$ 389,760	28.8%		
		FY2006-2007	\$ 352,272	37.7%		
		FY2007-2008	\$ 340,714	38.8%		
		FY2008-2009	\$ 462,760	33.2%		
		Since 2003	\$ 1,312,562	27.5%		

Facility Energy & Cost Totals		Units: MMBTU	
September 2003 - June 2007		Use	Cost
Estimated Use & Cost Without Energy Management		209,212	\$4,076,378
Actual Use & Cost With Energy Management		162,444	\$3,045,669
Cost Avoidance %		22.4%	23.2%
Cost Avoidance \$		46,708	\$1,024,710
Total Savings \$		0	\$1,024,710

Facility Energy & Cost Totals		Units: MMBTU	
September 2003 - June 2009		Use	Cost
Estimated Use & Cost Without Energy Management		317,883	\$6,470,070
Actual Use & Cost With Energy Management		237,532	\$4,835,896
Cost Avoidance %		25.1%	27.5%
Cost Avoidance \$		79,351	\$1,634,264
Total Savings \$		0	\$1,634,264

Facility Energy & Cost Totals		Units: MMBTU	
September 2003 - September 2009		Use	Cost
Estimated Use & Cost Without Energy Management		323,659	\$6,837,038
Actual Use & Cost With Energy Management		242,206	\$4,936,730
Cost Avoidance %		25.0%	28.6%
Cost Avoidance \$		83,454	\$1,920,808
Total Savings \$		0	\$1,920,808

Energy Usage FY 2003-2009

Utility	Estimated Usage Without Energy Cap	Actual Usage with Energy Cap	Avoided Usage	Cost Avoidance Percentage
FY2003-2004				
Electricity	9,438,406	7,772,700	1,665,705	17.80%
Gas	160,334	141,125	19,209	12%
Water	9,100	7,270	1,830	20.11%
FY2004-2005				
Electricity	11,027,168	8,269,659	2,757,509	24.97%
Gas	149,664	147,378	2,286	1.49%
Water	10,824	6,985	3,839	35.47%
FY2005-2006				
Electricity	11,442,538	8,158,880	3,283,658	28.70%
Gas	144,471	121,224	23,247	16.09%
Water	10,838	8,119	2,720	25.08%
FY2006-2007				
Electricity	11,141,054	7,511,484	3,629,569	32.56%
Gas	151,080	118,556	34,511	22.84%
Water	10,831	7,739	3,092	28.55%
FY2007-2008				
Electricity	11,182,805	7,973,153	3,209,652	28.70%
Gas	147,274	105,072	42,202	28.66%
Water	10,808	7,802	3,006	27.81%
FY2008-2009				
Electricity	11,248,009	7,439,804	3,808,465	33.85%
Gas	164,680	117,301	47,279	28.73%
Water	10,880	7,251	3,629	33.16%
TOTALS				
ELECTRICITY	86,455,090	47,125,360	39,330,709	28.00%
GAS	917,293	748,859	168,224	18.38%
Water	63,252	44,686	18,315	28.94%

Hopewell Public School's Cost Avoidance Chart



Things Anyone Can Do To Save Energy

1. Be sure that all doors and windows are closed when heating or cooling systems are on.
2. Ensure doors between conditioned and non-conditioned spaces remain closed at all times. For example: doors between gyms and hallways, doors between auditorium and halls, doors to mechanical rooms, and all outside doors.
3. Look under and around closed doors, if you can see outside, the weather-stripping needs to be replaced, submit a work request to have it fixed.
4. Turn off the lights when you leave; this applies to any area, any time, even if it's just for a few moments. Lights should not be left on in unoccupied areas.
5. Be aware of closets, storage rooms, rest rooms, mechanical rooms, and other areas that are not highly occupied. Make sure the lights are off in those areas when they are not in use.
6. Gym and athletic field lights should not be left on unless they are being utilized.
7. Take a special look at outside lights, (parking lot lights, lights under awnings, security lights, etc.) Outside lights should be turned off during the day. Submit a work request to have outside lights that you see on during the day turned off.
8. When the school is empty of facility users, custodians should only turn on lights in the areas where they are working.
9. Make sure that all toilets stop running water shortly after they flush. If water continues to flow, submit a work request to have it fixed.
10. Check all faucets and make sure they don't drip when they are turned off. If they continue to drip, submit a work request to have it fixed.
11. Turn off all unnecessary equipment you use when you are through with it.

EVERYONE MUST BE AN "ENERGY SAVER" AS WELL AS AN "ENERGY USER"